

WHAT IS CLAIMED IS

- Sub A1
1. A data filtering apparatus for a multiplexing unit arranged to receive a plurality of data signals, the apparatus comprising input means for receiving a plurality of data signals, processing means arranged to identify at least one data signal from the plurality of data signals conforming to a predetermined criteria and to transmit an identifying signal corresponding to the identified at least one data signal to the multiplexing unit for selective processing of the at least one data signal from the plurality of data signals.
 2. An apparatus as claimed in Claim 1, wherein the processing means comprises level detection means arranged to determine whether each of the plurality of data signals is above a predetermined threshold.
 3. An apparatus as claimed in Claim 2, wherein the level detection means is an array of comparator means.
 4. An apparatus as claimed in Claim 1 wherein the processing means includes means for receiving an external control signal.
 5. An apparatus as claimed in Claim 4, wherein the external control signal is an instruction relating to the selective processing of the plurality of data signals.
 6. A photodiode array processing unit comprising the data filtering apparatus as claimed in Claim 1.
 7. A method of filtering a plurality of data signals for a multiplexing unit, the method comprising the steps of:
receiving the plurality of data signals,
identifying at least one data signal from the plurality of data signals conforming to a predetermined criteria, and

transmitting an identifying signal corresponding to the identified at least one data signal to the multiplexing unit for selective processing of the at least one data signal from the plurality of data signals.

8. A method as claimed in Claim 7, further comprising identifying the at least one data signal from the plurality of data signals conforming to the predetermined criteria by determining whether each of the plurality of data signals is above a predetermined threshold.

9. A channel selection logic unit for a multiplexing unit, the logic unit comprising:

an input port for receiving receive a plurality of data signals,
a processing unit including a plurality of level detectors coupled to the input port and arranged to determine whether each of the plurality of data signals is above a predetermined threshold, and generate an identifying signal indicative of each of the plurality of data signals being above the predetermined threshold, and
an output port for coupling to the multiplexing unit in order to transmit the identified at least one data signal to the multiplexing unit for selective processing of the at least one data signal from the plurality of data signals.

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